wherein the glycosidase has a concentration in a range of about 100 mU/ml to about 200 mU/ml, and

whereby the xenograft has substantially the same mechanical properties as a corresponding portion of a native bone.

13. A method of preparing a bone xenograft for implantation into a human, which comprises

a. removing at least a portion of a bone from a non-human animal to providea xenograft;

b. washing the xenograft in water and alcohol;

c. subjecting the xenograft to a cellular disruption treatment;

d. digesting the xenograft with a glycosidase at a concentration within the range of about 100 mU/ml to about 200 mU/ml to remove substantially a plurality of first surface carbohydrate moieties from the xenograft; and

e. treating a plurality of second surface carbohydrate moieties on the xenograft with a plurality of sialic acid molecules to cap at least a portion of the second surface carbohydrate moieties,

whereby the xenograft is substantially non-immunogenic and has substantially the same mechanical properties as a corresponding portion of a native bone.

14. The method of claim 13, wherein the capping step comprises treating the second surface carbohydrate moieties on the xenograft with the sialic acid molecules having a concentration in a range of about 0.01 mM to about 100mm.

A3

23. An article of manufacture comprising a substantially non-immunogenic kneebone xenograft for implantation in to a human, produced by

a. removing at least a portion of a bone from a non-human animal to providea xenograft;

b. washing the xenograft in water and alcohol;

c. subjecting the xenograft to a cellular disruption treatment; and

d. digesting the xenograft with a glycosidase to remove substantially aplurality of first surface carbohydrate moieties from the xenograft,

wherein the glycosidase has a concentration in a range of about 100 mU/ml to about 200 mU/ml, and

whereby the xenograft has substantially the same mechanical properties as acorresponding portion of a native bone.

A4

25. The article of manufacture of claim 24, wherein the capping molecules have a concentration in a range of about 0.01 mM to about 100 mM.

A5

35. An article of manufacture comprising a substantially non-immunogenic kneebone xenograft for implantation in to a human, produced by

a. removing at least a portion of a bone from a non-human animal to provide a xenograft;

b. washing the xenograft in water and alcohol;

c. subjecting the xenograft to a cellular disruption treatment;

d. digesting the xenograft with a glycosidase at a concentration within the range of about 100 mU/ml to about 200 mU/ml to remove substantially a plurality of first surface carbohydrate moieties from the xenograft; and

e. treating a plurality of second surface carbohydrate moieties on the xenograft with a plurality of sialic acid molecules to cap at least a portion of the second surface carbohydrate moieties,

whereby the xenograft is substantially non-immunogenic and has substantially the same mechanical properties as a corresponding portion of a native bone.